

THE ROLE OF THE INTERNATIONAL PLANT PROTECTION CONVENTION IN THE PRE-IMPORT SCREENING OF LIVE ANIMALS

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The principal agreement aimed at preventing the introduction and spread of pests of plants and plant products is the International Plant Protection Convention (IPPC), a international treaty for cooperation in plant protection. Its purpose is to protect plants by preventing the introduction and spread of pests of plants and plant products, to promote appropriate measures for their control and promote fair and safe trade between member countries.

In considering these goals in the context of pre-import screening of live animals, three questions arise:

What is a pest? What plants are protected? and What is “potential economic importance”?

A critical definition is the IPPC definition of pest; defined as “... any species, strain or biotype of plant, animal or pathogenic agent, injurious to plants or plant products”. The IPPC applies to cultivated plants (agriculture, horticulture and forestry), natural flora and plant products ranging from wood products and dried plant materials for handicrafts to fresh fruits and vegetables for consumption or processing, and grains for food or feed; the IPPC model encompasses habitats and ecosystems, as well as individual plants or groups of plants which may be threatened by introduced pests. The IPPC definition of potential economic importance includes both direct and indirect damage by pests, as well as economic, environmental and societal impacts. Pest damage may be measured or described in quantitative or qualitative terms.

In addition to plants and plant products, the scope of the IPPC also extends to storage places, packaging, conveyances, containers, soil and any other organism, object or material capable of harbouring or spreading pests of plants. It explicitly covers the intentional introduction of organisms which may be pests, providing examples which include organisms for biocontrol, industrial or other beneficial purposes, but not limiting itself to these cases.

The IPPC conveys the right on member countries to apply phytosanitary measures to products moving in trade in order to protect their plant resources, but also conveys upon them certain responsibilities. Obligations of contracting parties include the following:

- establishing a National Plant Protection Organization (NPPO);
- communicating phytosanitary requirements, restrictions and prohibitions;
- conducting surveillance for pests and certifying export to meet import requirements of trading partners;
- notifying trading partners of non-compliance with import requirements and emergency actions taken; and
- exchanging information on pests of plants (including pest reporting).

Likewise, the IPPC identifies twenty eight principles, some basic and some operational, which should guide countries in the development of phytosanitary regulations. Those most relevant to a discussion of pre-screening for import purposes include:

- Necessity
- Managed risk
- Technical justification
- Minimal impact
- Non-discrimination
- Transparency
- Cooperation
- Equivalence

International Standards for Phytosanitary Measures (ISPMs) are intended to harmonise phytosanitary measures used in international trade. They provide guidance to member countries to assist them in implementing national phytosanitary programs that fulfill the requirements of the IPPC and contribute to harmonisation between contracting parties. These standards may further guide WTO member countries in establishment of phytosanitary measures in accordance with the WTO SPS Agreement, Article 3 which states that, with some exceptions, Members shall base their sanitary or phytosanitary measures on international standards, guidelines or recommendations, where they exist.

The ISPMs that are most relevant to pest risk analysis (PRA) are:

- ISPM No.2 (*Framework for pest risk analysis, 2007*)
- ISPM No. 3 (*Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms, 2005*)
- ISPM No.11 (*Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms, 2004*)
- ISPM No. 21 (*Pest risk analysis for regulated non-quarantine pests*)

Pest risk analysis (PRA) is a process that provides a science-based rationale for the application of phytosanitary measures in a specified PRA area. It is a systematic approach to deciding if a pest should be managed and, if so, what measures should be taken. The PRA process includes an evaluation of technical, scientific and economic information about an organism to determine the level of risk that it poses, the acceptability of that risk and the steps that could be taken to reduce that risk to an acceptable level. The overall PRA process requires first the identification of the organism of concern, followed by the scientific pest risk assessment stage in which consideration is given to the organism's likelihood of introduction, establishment and spread, and its potential impacts should it become established. In the pest risk management stage, potential measures for mitigating the species' risk are identified and evaluated, before a decision is reached. The PRA process is conducted in a complex environment which includes risk communication, national policy considerations and stakeholder input.

In very simple terms, PRA asks five basic questions:

- What bad thing can happen?
- How likely is it to happen?
- How bad will it be?
- Can I live with it?

- If not, what can I do about it?

A PRA may be initiated for any number of reasons; it may be focussed on a specific pest, a pathway which includes one or more individual pests, or a policy addressing one or more pests. As described in ISPM No. 11, an important first step in commencing a PRA is the identification of the PRA area because this will define to a great extent the scope of the PRA and any phytosanitary measures that will be applied as a result of the PRA. Finally, it is important to fully understand the pathway(s) that are being considered in the PRA, including such information as the origin of the introduction; volumes, destinations, intended end-uses and timing of any intentional imports; and other related information. This information may be important in assessing the entry potential, identifying areas at risk, or implementing future mitigation measures.

In order for an organism to have a negative impact in a PRA area, it must first enter, then become established and spread to new environments. These three factors are considered separately in ISPM 11 and their combination provides an estimation of the likelihood of introduction. ISMP 11 provides guidance regarding the types of information which should be considered in assessing overall likelihood, including such things as the organism's prevalence in the area of origin, its survival in transit, and environmental requirements which must be met in the area of destination in order for establishment to occur.

Impacts may be economic, environmental or social, and they may be direct or indirect. They may be measurable and hence quantitative, or they may be described in a qualitative manner, or a combination of both. Whereas probability is a reflection of the likelihood of an event, impacts are a question of magnitude. The definition of the term "economic impacts" in ISPM No. 5 (2006) indicates that it also includes environmental and social impacts. Accounting for environmental concerns in economic terms can be done using monetary or non-monetary values and should take into account the fact that market impacts are not the sole indicator of pest consequences. Countries have the right to adopt phytosanitary measures with respect to pests for which the damage caused to plants, plant products or ecosystems within an area cannot be easily quantified.

The conclusion of a pest risk assessment provides an indication of the overall risk represented by the organism in question, identification of the area at risk of invasion, and a measure of the uncertainty associated with the assessment. If the identified level of risk is acceptable, the PRA may stop, but if it is not so, then the PRA continues to the pest risk management stage where mitigation measures are considered and appropriate measures selected to lower the risk to an acceptable level. The PRA process is an iterative one in which new information is considered as it is received and introduction of mitigation measures at the risk management stage frequently necessitates re-visiting the pest risk assessment stage.

Although ISPMs are internationally agreed to and adopted, they are meant to be guidelines and their use is not mandatory within the framework of the IPPC. Their interpretation and application on a national level varies from country to country. This variation is illustrated by the many different national systems and procedures that exist for carrying out PRA. Countries often take slightly different approaches to implementing the standards while still staying true to their intent. ISPMs are designed to provide a framework and countries use that framework as a basis for their own national systems, which may include one or more systems ranging from highly text-based descriptive models to automated computer-based simulations. Provided the PRA is consistent with the IPPC principles, provides the information that is necessary for decision-

making, and addresses the aforementioned five basic questions, it can be considered to be in line with the IPPC PRA standards. “Fit for purpose” is an important concept in PRA.

Can the IPPC can contribute to the pre-import screening of animals? It is evident that the scope of the IPPC is broad enough to accommodate many animals and many situations, though a decision to do so using IPPC tools is a national decision. Where the animal poses a direct or indirect threat to plants, and where it is not present or not widely distributed (and under official control), and could become established with unacceptable economic, environmental or societal impacts, it may be considered to be a potential quarantine pest. Regardless of whether or not a country decides to regulate animals as plant quarantine pests, the IPPC PRA models may provide useful guidance for pre-screening and other ISPMs for plant quarantine pests may likewise be useful in the establishment of international standards or procedures for dealing with animals. Doing so presents challenges but the benefits may make the effort worthwhile.